

UNITED STATES PATENT AND TRADEMARK OFFICE

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Attorney Docket No.: UT-0031
Inventors: Mayer-Proschel et al.
Serial No.: 09/813,429
Filing Date: March 21, 2001
Examiner: Not Yet Assigned
Group Art Unit: 1645
Title: Method of Isolating Human
Neuroepithelial Precursor Cells from
Human Fetal Tissue

I, Kathleen A. Tyrrell, Registration No. 38,350, certify that this correspondence is being depositing with the U.S. Postal Service as First Class mail in an envelope addressed to the Assistant Commissioner for Patents and Trademarks, Washington, D.C. 20231.

On this date: September 18, 2001


Kathleen A. Tyrrell, Registration No. 38,350

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 C.F.R. §1.56(b).

(XX) In accordance with §1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified application, within three months of the date of entry into

the national stage of the above identified application as set forth in §1.491, or before the mailing date of a first Office Action on the merits of the above-identified application, no additional fee is required.

- () In accordance with §1.97(c), this Information Disclosure Statement is being filed after the period set forth in §1.97(b) above but before the mailing date of either a Final Action under §1.113 or a Notice of Allowance under §1.311, therefore:
 - () Certification in Accordance with §1.97(e) is set forth below; or
 - () The fee of \$180.00 as set forth in §1.17(p) is attached.
- () In accordance with §1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under §1.113 or a Notice of Allowance under §1.311 but before the payment of the Issue Fee, therefore included are: Certification in Accordance with §1.97(e); Petition Requesting Consideration of the Information Disclosure Statement; and the fee of \$130.00 as set forth in §1.17(i)(1).
- (**XX**) Copies of each of the references listed on the attached Form PTO-1449 (modified) are enclosed herewith.
- () In accordance with §1.98(d), copies of some or all of the references listed on the attached Form PTO-1449 (modified) are not enclosed herewith because they were previously

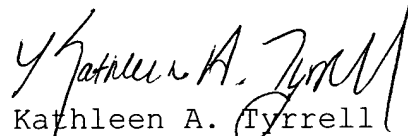
submitted to the U.S. Patent and Trademark Office in prior application Serial No. _____, filed _____, for which a claim for priority under 35 U.S.C. §120 has been made in the instant application.

Please charge any deficiency or credit any overpayment to Deposit Account No. 50-1619. This form is submitted in duplicate.

() The relevance of the listed references in a foreign language is as stated in the specification at pages @@.

(**xx**) All listed references are in the English language.

Respectfully submitted,

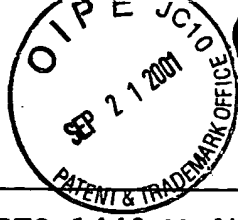


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Date: **September 18, 2001**

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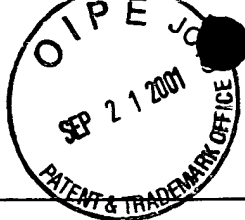
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| Form PTO-1449 Modified | | Docket No. UT-0031 | Serial No. 09/813,429 |
| List of Patents and Publications Cited by Applicant (Use several sheets if necessary) | | Applicant Mayer-Proschel et al. | |
| | | Filing Date March 21, 2001 | Group 1645 |
| U.S. Department of Commerce | | | |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | | |
| | AA | Ahmed et al., "BDNF Enhances the Differentiation but Not the Survival of CNS Stem Cell-Derived Precursors", <i>J. Neurosci.</i> 1995 15:5765-5778 | |
| | AB | Brannen C.L. and Sugaya K., "In vitro differentiation of multipotent human neural progenitors in serum-free medium", <i>NeuroReport</i> 2000 11:1123-1128 | |
| | AC | Carpenter et al., "In Vitro Expansion of a Multipotent Population of Human Neural Progenitor Cells", <i>Exp. Neurol.</i> 1999 158:265-278 | |
| | AD | Chiasson et al., "Adult Mammalian Forebrain Ependymal and Subependymal Cells Demonstrate Proliferative Potential, but only Subependymal Cells Have Neural Stem Cell Characteristics", <i>J. Neurosci.</i> 1999 19:4462-4471 | |
| | AE | Corbeil et al., "The Human AC133 Hematopoietic Stem Cell Antigen Is also Expressed in Epithelial Cells and Targeted to Plasma Membrane Protrusions", <i>J. Biol. Chem.</i> 2000 275:5512-5520 | |
| | AF | Doetsch et al., "Subventricular Zone Astrocytes Are Neural Stem Cells in the Adult Mammalian Brain", <i>Cell</i> 1999 97:703-716 | |
| | AG | Doetsch et al., "Cellular Composition and Three-Dimensional Organization of the Subventricular Germinal Zone in the Adult Mammalian Brain", <i>J. Neurosci.</i> 1997 17:5046-5061 | |
| | AH | Eriksson et al., "Neurogenesis in the adult human hippocampus", <i>Nat. Med.</i> 1998 4:1313-1317 | |
| | AI | Fricker et al., "Site-Specific Migration and Neuronal Differentiation of Human Neural Progenitor Cells after Transplantation in the Adult Rat Brain", <i>J. Neurosci.</i> 1999 19:5990-6005 | |
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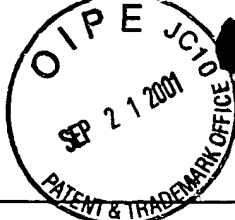


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| | | Applicant Mayer-Proschel et al. | |
| | | Filing Date March 21, 2001 | Group 1645 |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | | |
| | AJ | Forsberg-Nilsson et al., "Platelet-Derived Growth Factor Induces Chemotaxis of Neuroepithelial Stem Cells", <i>J. Neurosci. Res.</i> 1998 53:521-530 | |
| | AK | Gage F.H., "Mammalian Neural Stem Cells", <i>Science</i> 2000 287:1433-1438 | |
| | AL | Gage et al., "Multipotent Progenitor Cells in the Adult Dentate Gyrus", <i>J. Neurobiol.</i> 1998 36:249-266 | |
| | AM | Garcia-Verdugo et al., "Architecture and Cell Types of the Adult Subventricular Zone: In Search of the Stem Cells", <i>J. Neurobiol.</i> 1998 36:234-248 | |
| | AN | Haydar et al., "Differential Modulation of Proliferation in the Neocortical Ventricular and Subventricular Zones", <i>J. Neurosci.</i> 2000 20:5764-5774 | |
| | AO | Horner et al., "Proliferation and Differentiation of Progenitor Cells Throughout the Intact Adult Rat Spinal Cord", <i>J. Neurosci.</i> 2000 20:2218-2228 | |
| | AP | Johansson et al., "RAPID COMMUNICATION Neural Stem Cells in the Adult Human Brain", <i>Exp. Cell Res.</i> 1999 253: 733-736 | |
| | AQ | Johansson et al., "Identification of a Neural Cell Stem in the Adult Mammalian Central Nervous System", <i>Cell</i> 1999 96:25-34 | |
| | AR | Kalyani et al., "Neuroepithelial Stem Cells from the Embryonic Spinal Cord: Isolation, Characterization, and Clonal Analysis", <i>Dev. Biol.</i> 1997 186:202-223 | |
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| | AS | Kalyani et al., "Expression of EGF Receptor and FGF Receptor Isoforms during Neuroepithelial Stem Cell Differentiation", <i>J. Neurobiol.</i> 1999 38:207-224 | |
| | AT | Kirschenbaum et al., "In vitro Neuronal Production and Differentiation by Precursor Cells Derived from the Adult Human Forebrain", <i>Cereb. Cortex</i> 1994 4:576-589 | |
| | AU | Kukekov et al., "Multipotent Stem/Progenitor Cells with Similar Properties Arise from two Neurogenic Regions of Adult Human Brain ¹ ", <i>Exp. Neurol.</i> 1999 156:333-344 | |
| | AV | Lois C. and Alvarez-Buylla A., "Proliferating subventricular zone cells in the adult mammalian forebrain can differentiate into neurons and glia", <i>Proc. Natl Acad. Sci. USA</i> 1993 90:2074-2077 | |
| | AW | Marmur et al., "Isolation and Developmental Characterization of Cerebral Cortical Multipotent Progenitors", <i>Dev. Biol.</i> 1998 204:577-591 | |
| | AX | Miraglia et al., "A Novel Five-Transmembrane Hematopoietic Stem Cell Antigen: Isolation, Characterization, and Molecular Cloning", <i>Blood</i> 1997 90:5013-5021 | |
| | AY | Morrison et al., "Prospective Identification, Isolation by Flow Cytometry, and In Vivo Self-Renewal of Multipotent Mammalian Neural Crest Stem Cells", <i>Cell</i> 1999 96:737-749 | |
| | AZ | Palmer et al., "Fibroblast Growth Factor-2 Activates a Latent Neurogenic Program in Neural Stem Cells from Diverse Regions of the Adult CNS", <i>J. Neurosci.</i> 1999 19:8487-8497 | |
| | BA | Pagano et al., "Isolation and Characterization of Neural Stem Cells from the Adult Human Olfactory Bulb", <i>Stem Cells</i> 2000 18:295-300 | |
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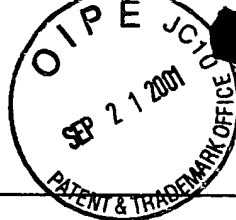
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| | BB | Piper et al., Immunocytochemical and Physiological Characterization of a Population of Cultured Human Neural Precursors", <i>J. Neurophysiol.</i> 2000 84:534-548 | |
| | BC | Quinn et al., "Lineage Restriction of Neuroepithelial Precursor Cells From Fetal Human Spinal Cord", <i>J. Neurosci. Res.</i> 1999 57:590-602 | |
| | BD | Rao M.S., "Multipotent and Restricted Precursors in the Central Nervous System", <i>Anat. Rec.</i> 1999 257:137-148 | |
| | BE | Reynolds B.A. and Weiss S., "Clonal and Population Analyses Demonstrate That an EGF-Responsive Mammalian Embryonic CNS Precursor Is a Stem Cell", <i>Dev. Biol.</i> 1996 175:1-13 | |
| | BF | Stemple D.L. and Anderson D.J., "Isolation of a Stem Cell for Neurons and Glia from the Mammalian Neural Crest", <i>Cell</i> 1992 71:973-985 | |
| | BG | Svendsen et al., "A new method for the rapid and long term growth of human neural precursor cells", <i>J. Neurosci. Methods</i> 1998 85:141-152 | |
| | BH | Tsai R.Y. and McKay R.D., "Cell Contact Regulates Fate Choice by Cortical Stem Cells", <i>J. Neurosci.</i> 2000 20:3725-3735 | |
| | BI | Vescovi et al., "Isolation and Cloning of Multipotential Stem Cells from the Embryonic Human CNS and Establishment of Transplantable Human Neural Stem Cell Lines by Epigenetic Stimulation", <i>Exp. Neurol.</i> 1999 156:71-83 | |
| | BJ | Villa et al., "Establishment and Properties of a Growth Factor-Dependent, Perpetual Neural Stem Cell Line from the Human CNS", <i>Exp. Neurol.</i> 2000 161:67-84 | |
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| | BK | Weigmann et al., "Prominin, a novel microvilli-specific polytopic membrane protein of the apical surface of epithelial cells, is targeted to plasmalemmal protrusions of non-epithelial cells", <i>Proc. Natl Acad. Sci. USA</i> 1997 94:12425-12430 | |
| | BL | Weiss et al., "Multipotent CNS Stem Cells Are Present in the Adult Mammalian Spinal Cord and Ventricular Neuroaxis", <i>J. Neurosci.</i> 1996 16:7599-7609 | |
| | BM | Yin et al., "AC133, a Novel Marker for Human Hematopoietic Stem and Progenitor Cells", <i>Blood</i> 1997 90:5002-5012 | |
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